

WHAT IS CLAIMED IS:

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1. ~~An apparatus for mounting a cutting tool~~
used in mining, road working or earth moving comprising:
a bit holder, a protective wear sleeve for reducing wear
between the cutting tool and said bit holder, said
protective wear sleeve having an outer surface that is
adapted to being received in said bit holder, said wear
sleeve including a rearward disc end portion, an annular
groove portion and a forward tapered portion whereby
once said protective wear sleeve is set in said bit
holder by axial blows with a hammer said protective wear
sleeve will remain in said bit holder without relative
rotational or axial movement between said protective
wear sleeve and said bit holder.

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2. The apparatus according to claim 1
wherein said forward tapered portion is tapered at an
angle of between 5.5-7.0 degrees from a central axis of
the wear sleeve.

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3. ~~The apparatus according to claim 2~~
further comprising: a retainer positioned around said
annular groove of the wear sleeve.

4. ~~The apparatus according to claim 1~~
further comprising: ~~retainer~~ for attachment to said
wear sleeve around said annular groove.

Sub C1
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5. The apparatus of claim 2 wherein said bit
holder includes a cavity bore having a forward tapered
portion and a rearward cylindrical portion for
cooperatively receiving said wear sleeve.

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6. The apparatus of claim 5 wherein said
forward tapered portion of the bore is tapered at an
angle of between 5.5-7.0 degrees from a central axis of
the cavity bore.

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7. ~~The apparatus of according to claim 1~~
wherein the wear sleeve has an external portion adjacent
to the forward tapered portion that extends beyond said
bit holder, said wear sleeve external portion has a
5 shoulder and a rounded undercut portion between said
shoulder and said forward tapered portion of said wear
sleeve, whereby when said wear sleeve is subjected to
large loads and torques the rounded undercut portion
weakens and fails first.

10 8. The apparatus according to claim 4
wherein said retainer is generally a cylindrical split
sleeve retainer having beveled portions at both ends of
said cylindrical retainer, whereby said beveled end
portions compress when inserted into said bit holder,
15 said beveled ends help bias said cylindrical split
~~sleeve outwardly away from said wear sleeve.~~

9. The apparatus according to claim 8 wherein said retainer beveled portions are initially angled at 25 degrees with respect to the central axis of said cylindrical retainer.

10. ~~An joint coupling comprising:~~
~~a female member,~~
~~a male member,~~
~~said male member having an outer surface~~
25 ~~that is adapted to being received in said female member,~~
~~said male member including a rearward disc end portion,~~
~~an annular groove portion and a forward tapered portion~~
~~whereby once said male member is set in said female~~
~~member said male member will remain in said female~~
30 ~~member without relative rotational or axial movement~~
~~between said male member and said female member.~~

11. The joint coupling according to claim 10 further comprising: a retainer positioned around said ~~annular groove of the male member.~~

~~12. The joint coupling according to claim 10 further comprising: retainer for attachment to said male member around said annular groove.~~

Sub C1
5 13. The joint coupling according to claim 10 wherein said female member includes a cavity bore having a forward tapered portion and a rearward cylindrical portion for cooperatively receiving said male member.

10 ~~14. The joint coupling claim 12 wherein said forward tapered portion of the bore is tapered at an angle of between 8-11 degrees from a central axis of the cavity bore.~~

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15 ~~15. The joint coupling according to claim 10 wherein the male member has an external portion adjacent to the forward tapered portion that extends beyond said female member, said male member external portion has a shoulder and a rounded undercut portion between said shoulder and said forward tapered portion of said male member, whereby when said male member is subjected to large loads and torques the rounded undercut portion~~
20 ~~weakens and fails first.~~

Sub C1
25 16. The apparatus to claim 11 wherein said retainer is generally a cylindrical split sleeve retainer having beveled portions at both ends of said cylindrical retainer, whereby said beveled end portions compress when inserted into said female member, said beveled ends help bias said cylindrical split sleeve outwardly away from said male member.

30 17. The joint coupling according to claim 16 wherein said retainer beveled portions are initially angled at 25 degrees with respect to the central axis of said cylindrical retainer.

~~between said protective wear sleeve and said bit holder.~~

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*add
A/O*